

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Title : SYSTEM AND METHOD FOR
DETERMINING COMPONENTS
OF A BLENDED PLASTIC MATERIAL

Application No. : Not yet assigned
Applicants : Ernst, et al.
Filing Date : March 9, 2004
Art Unit : Not yet assigned
Examiner : Not yet assigned
Attorney Docket No. : 29765.04000

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF ALAN C. ERNST

Sir:

I, Alan C. Ernst, a named inventor in the above application. I have more than thirty years experience working in the plastics industry. For sixteen years, I served as Vice President of Manufacturing and Engineering of a major manufacturer of extruded plastic products. For over twenty five years, I have been directly involved with the use of recycled plastic materials.

The present invention can increase the use of post-consumer recycled plastics ("PCR") and reduce the volume of plastics in the waste stream (landfill). The present invention promotes the use of increased percentages of PCR in many products by more closely matching the blended material properties to the finished product physical properties requirements.

The most recent statistics (2002) show overall U.S. plastic bottle recycling rates were at 21%. Although it was a record year, the recycling growth rates have been flattening for the last several years in part due to slowing demand for PCR. One PCR grade, polyethylene, used in recyclable milk and detergent bottles, is typically 10-35% lower in cost than the virgin resins they displace. This provides plastic product manufacturers an economic incentive to incorporate maximum PCR content while maintaining product quality. Manufacturers currently limit their PCR content for many products due to the low quality and variability of the incoming material streams physical properties. The systems and methods of the present invention allow for the

Declaration of Alan C. Ernst
Filing Date: March 9, 2004

Attorney Docket Number: 29765.04000
Express Mail No.: EV 205191347 US

accurate real-time measurement of a material's physical properties; calculate the appropriate additive components; and determine preferred percentages of PCR. Accordingly, the present invention promotes increased PCR content, lower manufacturing costs and increased demand for PCR materials. As increased PCR usage and recycling rates grow more PCR will be diverted from the waste stream (landfills).

In addition, the present invention can aid in reducing the volume of plastics entering the waste stream by "lightweighting" (i.e. reducing the amount of plastic in a product). Manufactures who use only virgin plastic materials can benefit by "lightweighting" their products. The methods of the present invention may also be applied in real-time to processes and products resulting in more closely matching the material properties to the finish product physical properties requirements, allowing the manufacture to reduce the amount of resin used in the product.

In these ways, I submit that the present invention will materially enhance the quality of the environment of mankind by contributing to the restoration or maintenance of the basic life-sustaining natural elements.

I am aware that the willful false statements and the like are made punishable by fine or imprisonment or both, under § 101 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above application or any patent resulting thereof, and I hereby declare that the foregoing statements of fact set forth above are true.

By: 

Alan C. Ernst
March 9, 2004

Express Mail Label No. EV 205191347 US

Docket No.
29765.04000

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

SYSTEM AND METHOD FOR DETERMINING COMPONENTS OF A PLASTIC MATERIAL

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on _____ as United States Application No. or PCT International Application Number _____ and was amended on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, or plant breeder's rights certificate(s), or 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

(Number) _____	(Country) _____	(Day/Month/Year Filed) _____	<input type="checkbox"/>
(Number) _____	(Country) _____	(Day/Month/Year Filed) _____	<input type="checkbox"/>
(Number) _____	(Country) _____	(Day/Month/Year Filed) _____	<input type="checkbox"/>

Form PTO-SB-01 (9-95) (Modified)

F9 (REV. 9/95)

Patent and Trademark Office U.S. DEPARTMENT OF COMMERCE

RECEIVED

SENT TO
CHG CLEVELAND DOCKET

MAR 09 2004

MAR 09 2004

CHG COLUMBUS IP

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

_____	_____
(Application Serial No.)	(Filing Date)
_____	_____
(Application Serial No.)	(Filing Date)
_____	_____
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*
 Robert R. Lech (Reg. No. 37,169)

Send Correspondence to: Robert R. Lech, Esq.
 Calfee, Halter & Griswold LLP
 21 East State Street, Suite 1100
 Columbus, OH 43215-4243

Direct Telephone Calls to: *(name and telephone number)*
 Robert R. Lech - 614-621-7101

Full name of sole or first inventor	
Todd C. Ernst	
Sole or first inventor's signature	Date
<i>Todd C. Ernst</i>	5/07/04
Residence	
71 Nottingham Street, Tallmadge, Ohio 44278	
Citizenship	
U.S.A.	
Post Office Address	
71 Nottingham Street, Tallmadge, Ohio 44278	

Full name of second inventor, if any	
Alan C. Ernst	
Second inventor's signature	Date
Residence	
28300 Kensington Lane, Perrysburg, Ohio 43551	
Citizenship	
U.S.A.	
Post Office Address	
28300 Kensington Lane, Perrysburg, Ohio 43551	

Express Mail Label No. EV 205191347 US

Page 1 of 3

Docket No.
29765.04000

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

SYSTEM AND METHOD FOR DETERMINING COMPONENTS OF A PLASTIC MATERIAL

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on _____ as United States Application No. or PCT International
Application Number _____
and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, or plant breeder's rights certificate(s), or 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

_____ (Application Serial No.)	_____ (Filing Date)
_____ (Application Serial No.)	_____ (Filing Date)
_____ (Application Serial No.)	_____ (Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

Robert R. Lech (Reg. No. 37,169)

Send Correspondence to: **Robert R. Lech, Esq.**
Calfee, Halter & Griswold LLP
21 East State Street, Suite 1100
Columbus, OH 43215-4243

Direct Telephone Calls to: *(name and telephone number)*
Robert R. Lech - 614-621-7101

Full name of sole or first inventor Todd C. Ernst	
Sole or first inventor's signature	Date
Residence 71 Nottingham Street, Tallmadge, Ohio 44278	
Citizenship U.S.A.	
Post Office Address 71 Nottingham Street, Tallmadge, Ohio 44278	

Full name of second inventor, if any Alan C. Ernst	
Second inventor's signature	Date
Residence 28300 Kensington Lane, Perrysburg, Ohio 43551	
Citizenship U.S.A.	
Post Office Address 28300 Kensington Lane, Perrysburg, Ohio 43551	